DETAILED ACTION

Claim Objections

1. Claims 1-38, are objected to under 37 C.F. R. 1.75 because of the following informalities:

In claim 1 line 12, second occurrence, "a send/receive pair" and seems to refer back to "a send/receive pair" recited at line 6 in claim 8, first occurrence. If it is true, it is suggested to change "a send/receive pair" to ---- the send/receive pair ----. See also claim 8 line 5, claim 9 line 5, claim 10 line 6, claim 13 line 4, claim 14 line 5, claim 20 line 25, claim 21 line 25.

In claim 7 line 5, second occurrence, "a sequence number" and seems to refer back to "a sequence number "recited at line 6 in claim 8, first occurrence. If it is true, it is suggested to change "a sequence number" to ---- the sequence number ----. See also claim 8 line 5, claim 9 and 10 line 6, claim 12 line 5, claim 26 line 5, claim 27 line 6, claim 28 line 6, claim 31 line 5, claim 34 line 6.

Claims 2-6, 11, 15-19, 21-25, 29-30, 32-33, 35-38, are objected to as being dependent upon objected base claims.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-38, are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "the identifiers" in lines 13, 17. There is insufficient antecedent basis for this limitation in the claim. See also in claim 2 lines 12, 14, 17, in claim 20 lines 25, 28, in claim 21 lines 25, 29.

Claim 6 recites the limitation "the Ethernet" in line 2. There is insufficient antecedent basis for this limitation in the claim. See also in claim 25 line 2.

Claim recites the limitation "the MPLS" in line 2. There is insufficient antecedent basis for this limitation in the claim. See also in claim 30 line 2.

Claim 16 recites the limitation "the memory" in line 2. There is insufficient antecedent basis for this limitation in the claim. See also in claim 35 line 3.

Claim 16 recites the limitation "the circulating hash" in line 3. There is insufficient antecedent basis for this limitation in the claim. See also in claim 35 line 3.

Claim 16 recites the limitation "the counter value" in lines 9, 16. There is insufficient antecedent basis for this limitation in the claim. See also in claim 35 lines 9, 17.

Claim 18 recites the limitation "the counter field" in line 4. There is insufficient antecedent basis for this limitation in the claim. See also in claim 37 line 4.

Claim 23 recites the limitation "the two circulating hash" in line 6. There is insufficient antecedent basis for this limitation in the claim.

Claims 3-5, 7-15, 17, 19, 22, 24, 26-34, 36, 38, are rejected to as being dependent upon rejected base claims.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-15, 17-34, 36-38, are rejected under 35 U.S.C. 103(a) as being unpatentable over Swenson et al. (US 7304996) in view of Sjoblom (US 2002/0009053).

Regarding claim 1and 2, Swenson et al. discloses a packet transfer method in a network apparatus that transfers packets, wherein: a sending side apparatus generates of a send packet, provides a sequence number identifying to each of the copied packets Fig. 1 element 106, Fig. 2 element 112b, column 31 lines 41-54, provides an identifier corresponding to a send/receive pair to each of the copied packets to send the packets column 26 lines 31-33), and a receiving side apparatus receives each of the packets with (Fig. 2 element 112a); recognizes the identifiers each corresponding to a send/receive pair (column 6 lines 33-38); identifies packets having the same information and the sequence based on the sequence number when the identifiers are the same (column 12 lines 48-59); selects one of the packets as to send the packet downstream, and discards another packet, wherein only one of the packets, the arriving packet is

sent downstream (column 31 lines 3-41). Swenson et al. does not disclose two copies, the same sending sequence, two receiving units. However, Sjoblom for example, from similar field of endeavor discloses two copies, the same sending sequence, two receiving units (Para 0002, 0064, 0024 lines 8-18, Fig. 5 element ES). Thus, it would have been obvious to one ordinary skill in the art at the time of invention to include two copies, the same sending sequence, two receiving units as taught by Sjoblom in the system of Swenson et al. wherein the method can be implemented in the Distributor). The motivation for including two copies, the same sending sequence, two receiving units as taught by Sjoblom being that to improve the quality of service in the communications network.

Regarding claims 20 and 21, Swenson et al. discloses A packet transfer apparatus for transferring packets, comprising: sending function means comprising: copy means for generating from a send packet (Fig. 2 element 112b); number/identifier providing means for providing a sequence number identifying to each of the packets copied by the copy means, and providing an identifier corresponding to a send/receive pair to each of the copied packets (column 26 lines 31-33, column 31 lines 41-55); packet sending means to which the sequence number and the identifier are provided, and receiving function means comprising: packet receiving means for receiving each sent from the sending function means (Fig. 2 element 112a); memories each for storing one of the two received packets (column 29 lines 60-61); selection means for reading out the packets stored in the memories, recognizing the identifiers each corresponding

to a send/receive pair, identifying packets having based on the sequence number when the identifiers are the same, and selecting one of the packets (column 39 lines 62-66); and sending means for sending the packet selected in the selection means downstream, and discarding another packet, wherein, when only one of the packets, the arriving packet is sent downstream (column 31 lines 30-41). Swenson et al. does not two copies, the same sending sequence, the same information and the sequence. However, Sjoblom for example, from similar field of endeavor discloses two copies, the same sending sequence, the same information and the sequence (Para 0002, 0064, 0024 lines 8-18). Thus, it would have been obvious to one ordinary skill in the art at the time of invention to include two copies, the same sending sequence, the same information and the sequence as taught by Sjoblom in the system of Swenson et al. wherein the method can be implemented in the Distributor). The motivation for including two copies, the same sending sequence, the same information and the sequence as taught by Sjoblom being that to improve the quality of service in the communications network.

Regarding claims 3 and 22, Swenson et al. discloses wherein the receiving side apparatus temporarily stores the two packets transferred from two routes into two FIFO memories respectively, and selects a packet transferred normally to transfer it downstream (column 5 lines 51-52, column 32 line 16).

Regarding claims 4 and 23, Swenson et al. discloses wherein the receiving side apparatus temporarily stores the two packets transferred from two routes into two circulating hash memories respectively, and selects a packet that is transferred normally so as to transfer it downstream (column 25 lines 26-28, column 29 lines 60-67).

Regarding claims 5 and 24, Swenson et al. discloses wherein the receiving side apparatus temporarily stores the two packets transferred from two routes into two FIFO memories respectively, and selects a packet that is transferred normally using a third memory shared by the two receiving units so as to transfer the selected packet downstream (column 5 lines 51-52, abstract).

Regarding claims 6 and 25, Swenson et al. discloses wherein the Ethernet is used as a packet transfer technology (column 11 lines 37-40).

Regarding claims 7 and 26, Swenson et al. discloses wherein a tag field and a counter field are inserted following a source MAC address in an Ethernet packet so as to write a VLAN tag corresponding to a route and a sequence number (column 11 lines 55-61).

Regarding claims 8 and 27, Swenson et al. discloses wherein a tag field and a counter field are inserted following a source MAC address in an Ethernet packet so as

to write a VLAN tag corresponding to a send/receive pair and a sequence number (column 23 lines 10-19, column 13 lines 29-33, column 12 lines 5-10).

Regarding claims 9 and 28, Swenson et al. discloses wherein a tag field and a counter field are inserted following a source MAC address in an Ethernet packet so as to write a VLAN tag corresponding to a send/receive pair and a sending route and write a sequence number (column 23 lines 10-19, column 13 lines 29-33, column 12 lines 5-10).

Regarding claims 10 and 29, Swenson et al. discloses wherein a tag field and a counter field are inserted following a source MAC address in an Ethernet packet so as to write a VLAN tag corresponding to a sending route, an identifying ID corresponding to a send/receive pair, and a sequence number (column 23 lines 10-19, column 13 lines 29-33, column 12 lines 5-10, column 31 lines 30-40).

Regarding claims 11 and 30, Swenson et al. discloses wherein MPLS is used as a packet transfer technology (column 31 lines 30-40).

Regarding claims 12 and 31, Swenson et al. discloses wherein a tag field and a counter field are inserted before a shim header of MPLS so as to write a shim header corresponding to a sending route, and a sequence number (column 12 lines 11-20).

Regarding claims 13 and 32, Swenson et al. discloses wherein a tag field and a counter field are inserted before a shim header of MPLS so as to write a shim header corresponding to a send/receive pair, and a sequence number (column 23 lines 10-19, column 12 lines 11-20).

Regarding claims 14 and 33, Swenson et al. discloses wherein a tag field and a counter field are inserted before a shim header of MPLS so as to write a shim header corresponding to a sending route, an identifying ID corresponding to a send/receive pair, and a sequence number (column 23 lines 10-19, column 13 lines 29-33, column 12 lines 5-10, column 31 lines 30-40).

Regarding claims 15 and 34, Swenson et al. discloses wherein a tag field and a counter field are inserted before a shim header of MPLS so as to write a shim header corresponding to a sending route and a send/receive pair, and a sequence number (column 23 lines 10-19, column 13 lines 29-33, column 12 lines 5-10, column 31 lines 30-40).

Regarding claims 17 and 36, Swenson et al. discloses wherein a packet transfer technology utilizing encapsulation of a variable-length packet is used (column 19 lines 36-45).

Regarding claims 18 and 37, Swenson et al. discloses wherein, when providing a header to the variable-length packet for encapsulation, the counter field is inserted after

the header for encapsulation so as to write the sequence number (column 12 lines 28-33).

Regarding claims 19 and 39, Swenson et al. discloses wherein the receiving side apparatus extracts an identifier corresponding to a send/receive pair or an identifier corresponding to a route from the header for encapsulation (column 11 lines 55-60, column 13 lines 22-28).

6. Claims 16 and 35, are rejected under 35 U.S.C. 103(a) as being unpatentable over Swenson et al. (US 7304996) in view of Sjoblom (US 2002/0009053) as applied to claim 1 and 20 and further in view of Ramakrishnan (US 2003/0018689).

Regarding claims 16 and 35, Swenson et al. discloses et al. discloses wherein a region of the memory using the circulating hash is divided into, when the receiving side-apparatus receives a packet, the receiving side apparatus stores the packet in a memory region of an address that is a reminder of the counter value when divided (column 10 lines 23-35, column 19 lines 28-34), even when a packet having prior to a packet having, the packet is once stored in the memory region of an address that is a reminder, and when reading out the packet, the packet is read out in the order of the counter value, so that reversal of arriving sequence within n is corrected to a correct sequence when reading out the packet (column 23 lines 21-27, column 6 lines 4-23, column 8 lines 48-56). Swenson et al. does not disclose n (n is an integer no less than

2) to which addresses 1-n are assigned, a counter value of N arrives, a counter value of N-n, the counter value N when divided by n. However, Ramakrishnan for example, from similar field of endeavor discloses n (n is an integer no less than 2) to which addresses 1-n are assigned, a counter value of N arrives, a counter value of N-n, the counter value N when divided by n (Para 0074 lines 1-5). Thus, it would have been obvious to one ordinary skill in the art at the time of invention to include n (n is an integer no less than 2) to which addresses 1-n are assigned, a counter value of N arrives, a counter value of N-n, the counter value N when divided by n as taught by Ramakrishnan in the system of Swenson et al. wherein the method can be implemented in the Distributor. The motivation for including n (n is an integer no less than 2) to which addresses 1-n are assigned, a counter value of N arrives, a counter value of N-n, the counter value N when divided by n as taught by Ramakrishnan is that hashing is used to convert an identifier or key, meaningful to a user, into a value for the location of the corresponding data in a structure, such as table in the communications network.

Swenson et al., Sjoblom and Ramakrishnan disclose all subject matter of the claim invention with the exception of the addresses 1-n and a counter value of N-n. However, it is generally considered to be within the ordinary skill in the art to adjust, vary, select or optimize the numerical parameters or values of any system absent a showing of criticality in a particular recited value. The burden of showing criticality is on Applicant. In re Mason, 87 F.2d 370, 32 USPQ 242 (CCPA 1937); Marconi Wireless Telegraph Co. v. U.S., 320 U.S. 1, 57 USPQ 471 (1943); In re Schneider, 148 F.2d 108, 65 USPQ 129 (CCPA 1945); In re Aller, 220 F.2d 454, 105 USPQ 233 (CCPA 1955); In re Saether,

492 F.2d 849, 181 USPQ 36 (CCPA 1974); In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977); In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). Since Swenson et al., Sjoblom and Ramakrishnan disclose the counter value and the hash is divided into n (n is an integer), it would have been obvious to one of ordinary skill in the art at the time of invention to have any counter value of N-n and addresses including 1-n, absent a showing of criticality by applicant.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to NOURALI MANSOURY whose telephone number is (571)270-5671. The examiner can normally be reached on Monday-Thursday, 12:00-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dang Ton can be reached on 571-272-3171. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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